Title: Method and Apparatus for Modifying Raster Data
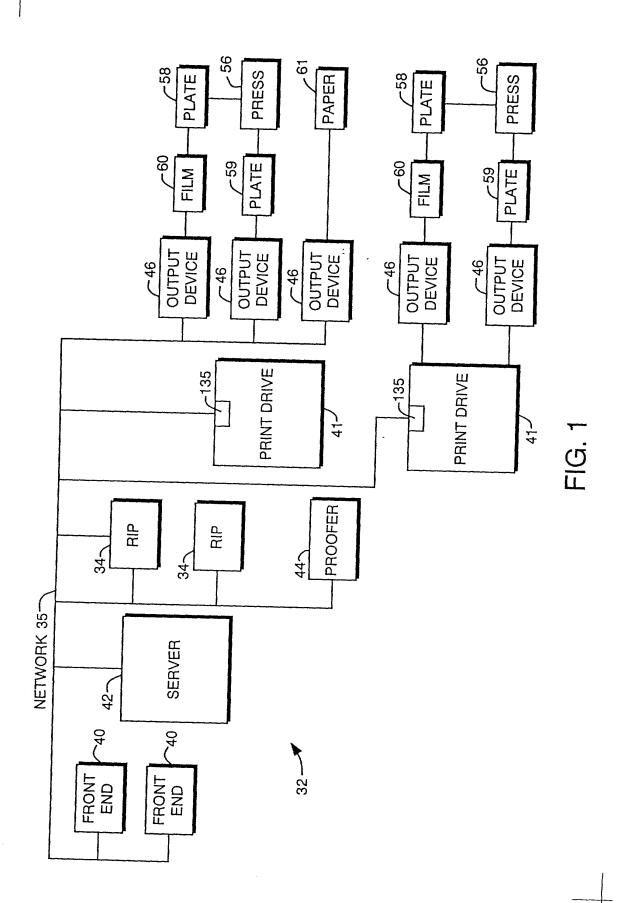Inventor(s): Bloomquist et al.
Serial No. 09/903,846
Atty Docket No. XP-0522CN (1660/86)
Atty/Agent: Ira V. Heffan
Express Mail Mailing Label No. EL917371169US
Sheet 1 of 23

FIG. 1

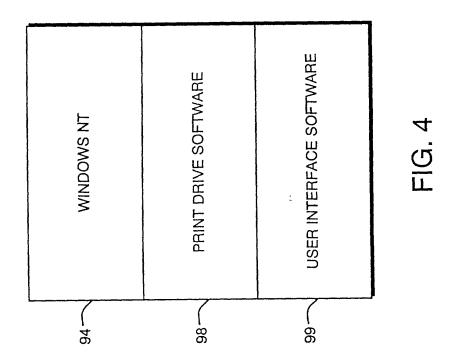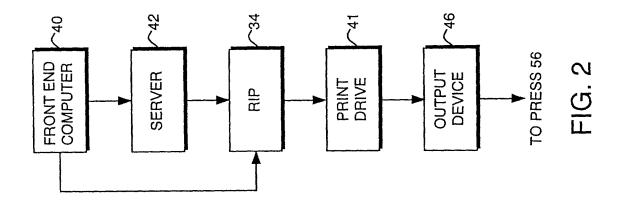Title: Method and Apparatus for Modifying Raster Data
Inventor(s): Bloomquist et al.
Serial No. 09/903,846
Atty Docket No. XP-0522CN (1660/86)
Atty/Agent: Ira V. Heffan
Express Mail Mailing Label No. EL917371169US
Sheet 2 of 23

WINDOWS NT — 94

PRINT DRIVE SOFTWARE — 98

USER INTERFACE SOFTWARE — 99

FIG. 4

FRONT END COMPUTER — 40

SERVER — 42

RIP — 34

PRINT DRIVE — 41

OUTPUT DEVICE — 46

TO PRESS 56

FIG. 2

Title "Method and Apparatus for Modifying Paste
Inventor(s): Bloomquist *et al.*
Serial No. 09/903,846
Atty Docket No. XP-0522CN (1660/86)
Atty/Agent: Ira V. Heffan
Express Mail Mailing Label No. EL917371169US
Sheet 3 of 23

FIG. 3

Title: Method and Apparatus for Modifying Raster Data
Inventor(s): Bloomquist *et al.*
Serial No. 09/903,846
Atty Docket No. XP-0522CN (1660/86)
Atty/Agent: Ira V. Heffan
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Sheet 4 of 23

98

OUTPUT CONTROL 102

OUTPUT ACTIVATION —112

OUTPUT DEVICE DRIVERS 114

JOB CONTROL 106

126 AUDIT

JOB LOG 128

122 CONTROL SERVICE

JOB LIST 124

130 FILE ACCESS

134 IMPORT/ EXPORT

JOB FILES 132

TO NETWORK INTERFACE MODULE 135

TO FIG. 5B

FIG. 5A

Title Method and Apparatus for Modifying Raster Data
Inventor(s): Bloomquist *et al.*
Serial No. 09/903,846
Atty Docket No. XP-0522CN (1660/86)
Atty/Agent: Ira V. Heffan
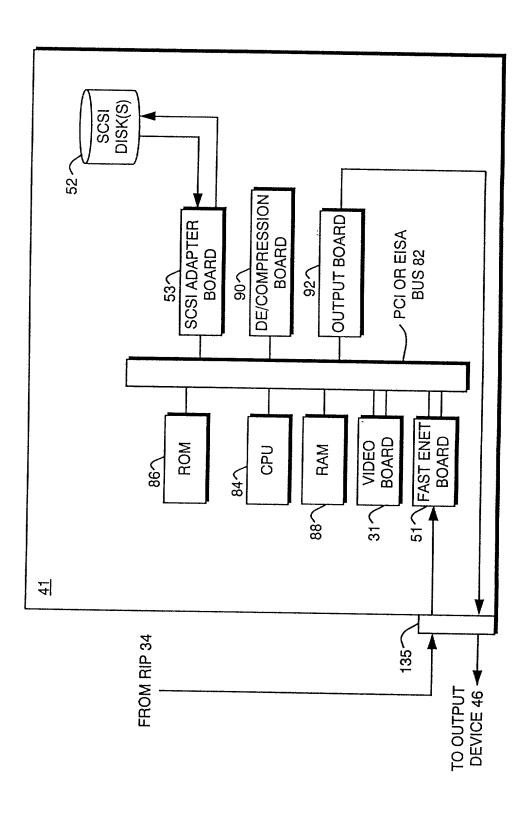Express Mail Mailing Label No. EL917371169US
Sheet 5 of 23

FROM FIG. 5A

PRINT DRIVE SERVICE 104

118
CONFIG.

114
MEDIA CONTROL

121
ALARMS

116
MEDIA LIST

120
TUNER PARAMETERS

PROOFER 108

140
PROOFER CONTROL

142
TEMP FILES

PREVIEW 110

FIG. 5B

Apparatus for Modifying Raster Data
Inventor(s): Bloomquist *et al.*
Serial No. 09/903,846
Atty Docket No. XP-0522CN (1660/86)
Atty/Agent: Ira V. Heffan
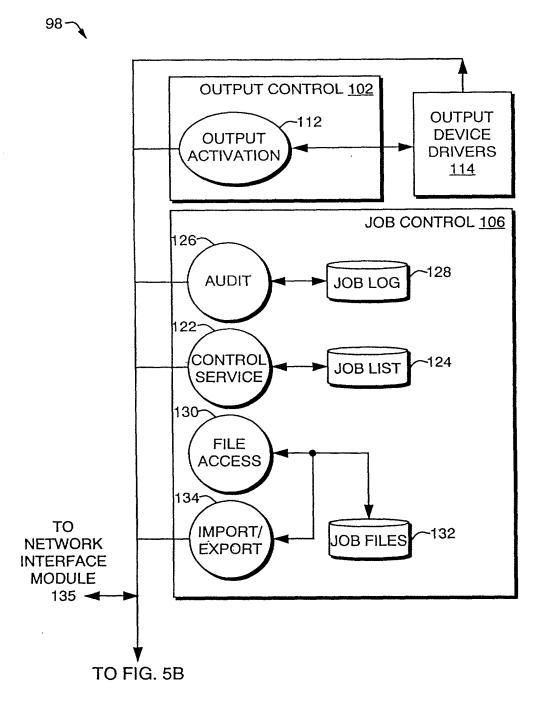Express Mail Mailing Label No. EL917371169US
Sheet 6 of 23

FIG. 6

Title: Method and Apparatus for Modifying Raster Data
Inventor(s): Bloomquist *et al.*
Serial No. 09/903,846
Atty Docket No. XP-0522CN (1660/86)
Atty/Agent: Ira V. Heffan
Express Mail Mailing Label No. EL917371169US
Sheet 7 of 23

FIG. 7

Title Method and Pp
Inventor(s): Bloomquist *et al.*
Serial No. 09/903,846
Atty Docket No. XP-0522CN (1660/86)
Atty/Agent: Ira V. Heffan
Express Mail Mailing Label No. EL917371169US
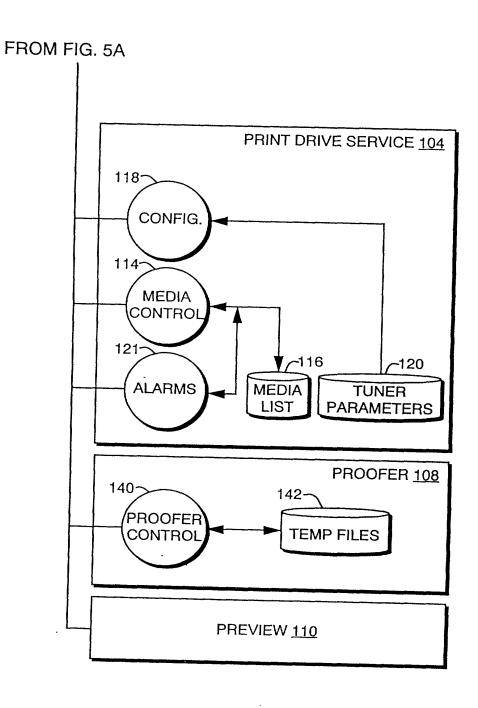Sheet 8 of 23

FIG. 8

START — 212

INVERT MASK — 214

216 — POSITIVE IMAGE ?

YES
NO

AND — 218

OR — 220

END — 222

FIG. 10

START — 202

204 — POSITIVE IMAGE ?

YES
NO

OR — 206

AND — 208

END — 210

FIG. 9

CREATE ORIGINAL IMAGE —230

CREATE MODIFICATION IMAGE 236—

IMPOSE ORIGINAL IMAGE —232

IMPOSE MODIFICATION IMAGE 238—

RIP PROCESS IMAGE —234

240— RIP PROCESS IMAGE

MERGE RASTERS —242

OUTPUT RASTERS —244

FIG. 11

Title Method and Apparatus for Modifying Raster Data
Inventor(s): Bloomquist et al.
Serial No. 09/903,846
Atty Docket No. XP-0522CN (1660/86)
Atty/Agent: Ira V. Heffan
Express Mail Mailing Label No. EL917371169US
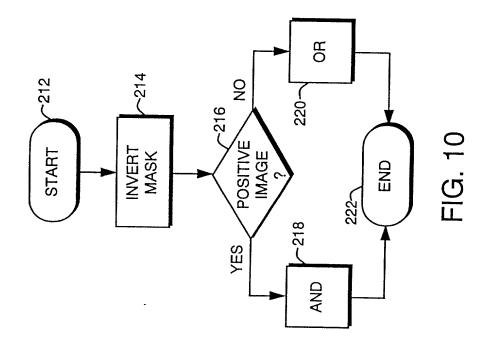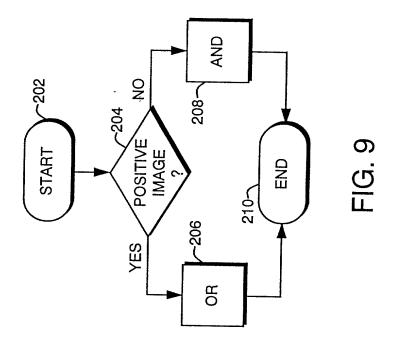Sheet 11 of 23

```
                    ┌──────────┐
                    │  START   │──248
                    └──────────┘
                         │
                         ▼
              YES    ◇ POSITIVE ◇    NO
         ┌────────────  IMAGE  ────────────┐
         │           ◇    ?    ◇           │
         │              └──250             │
         ▼                                 ▼
  ┌────────────┐                    ┌────────────┐
  │  INVERT    │──252               │  INVERT    │──262
  │   MASK     │                    │   MASK     │
  └────────────┘                    └────────────┘
         │                                 │
         ▼         ┌254                    ▼         ┌264
  ┌──────────────────┐             ┌──────────────────┐
  │ AND INVERTED MASK│             │ OR INVERTED MASK │
  │WITH FIRST RASTER │             │WITH FIRST RASTER │
  │DATA TO GENERATE  │             │ DATA TO GENERATE │
  │MASKED FIRST      │             │FIRST RASTER DATA │
  │RASTER DATA       │             │                  │
  └──────────────────┘             └──────────────────┘
         │                                 │
         ▼         ┌256                    ▼         ┌266
  ┌──────────────────┐             ┌──────────────────┐
  │AND MASK WITH     │             │OR MASK WITH      │
  │MODIFIED RASTER   │             │MODIFIED RASTER   │
  │DATA TO GENERATE  │             │DATA TO GENERATE  │
  │SECOND RASTER DATA│             │SECOND RASTER DATA│
  └──────────────────┘             └──────────────────┘
         │                                 │
         ▼         ┌258                    ▼         ┌268
  ┌──────────────────┐             ┌──────────────────┐
  │OR FIRST RASTER   │             │AND FIRST RASTER  │
  │DATA WITH SECOND  │             │DATA WITH SECOND  │
  │RASTER DATA TO    │             │RASTER DATA TO    │
  │GENERATE MODIFIED │             │GENERATE MODIFIED │
  │RASTER DATA       │             │RASTER DATA       │
  └──────────────────┘             └──────────────────┘
         │                                 │
         │          ┌270                   │
         │      ┌──────────┐               │
         └─────▶│   END    │◀──────────────┘
                └──────────┘
```

FIG. 12

FIG. 13A

Inventor(s): Bloomquist *et al.*
Serial No. 09/903,846
Atty Docket No. XP-0522CN (1660/86)
Atty/Agent: Ira V. Heffan
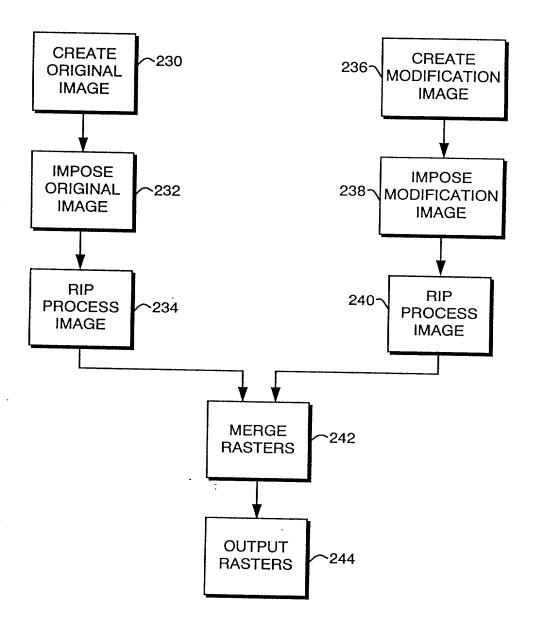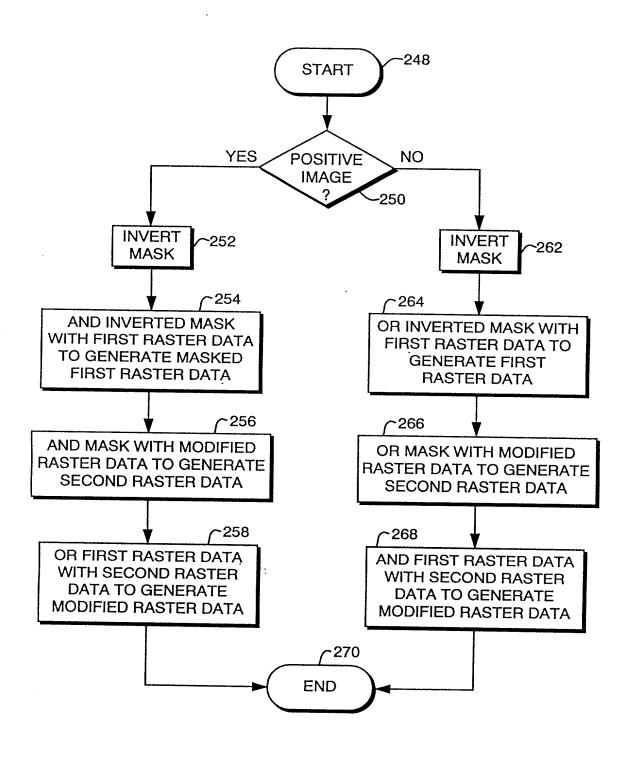Express Mail Mailing Label No. EL917371169US
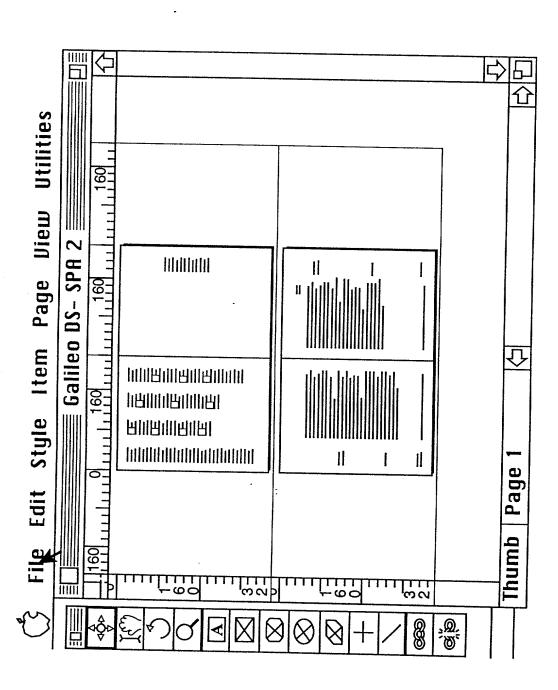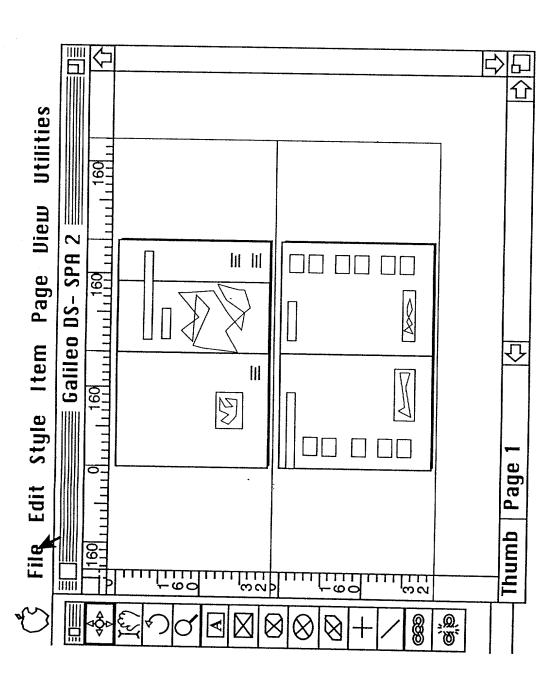Sheet 13 of 23

FIG. 13B

Inventor(s): Bloomquist *et al.*
Serial No. 09/903,846
Atty Docket No. XP-0522CN (1660/86)
Atty/Agent: Ira V. Heffan
Express Mail Mailing Label No. EL917371169US
Sheet 14 of 23

Add Separation ☒

Source

Job ID	501	Page 1
Job Name	jerry-3.preps	
Plane Name	Black	

OK

Cancel

Skip

Destination

Job ID	501	Page 1
Job Name	jerry-3.preps	
Plane Name	Black French	

Operation
- ○ Move
- ○ Replace
- ◉ Doubleburn
- ○ Knockout

FIG. 13C

Add Separation ☒

Source

Job ID	501	Page 2
Job Name	jerry-3.preps	
Plane Name	Black	

OK

Cancel

Skip

Destination

Job ID	501	Page 1
Job Name	jerry-3.preps	
Plane Name	Black	

Operation
- ○ Move
- ○ Replace
- ◉ Doubleburn
- ○ Knockout

FIG. 13D

Add Separation ⊠

Source

Job ID	501	Page 1
Job Name	jerry-3.preps	
Plane Name	Black	

OK

Cancel

Skip

Destination

Job ID	533	Page 1
Job Name	jerry-3.preps	
Plane Name	Black	

Operation

- ○ Move
- ○ Replace
- ◉ Doubleburn
- ○ Knockout

FIG. 13E

Title Method and Apparatus for Modifying Rus
Inventor(s): Bloomquist *et al.*
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Sheet 16 of 23

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FIG. 14A

Apparatus for Modifying Raster Data
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Serial No. 09/903,846
Atty Docket No. XP-0522CN (1660/86)
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Express Mail Mailing Label No. EL917371169US
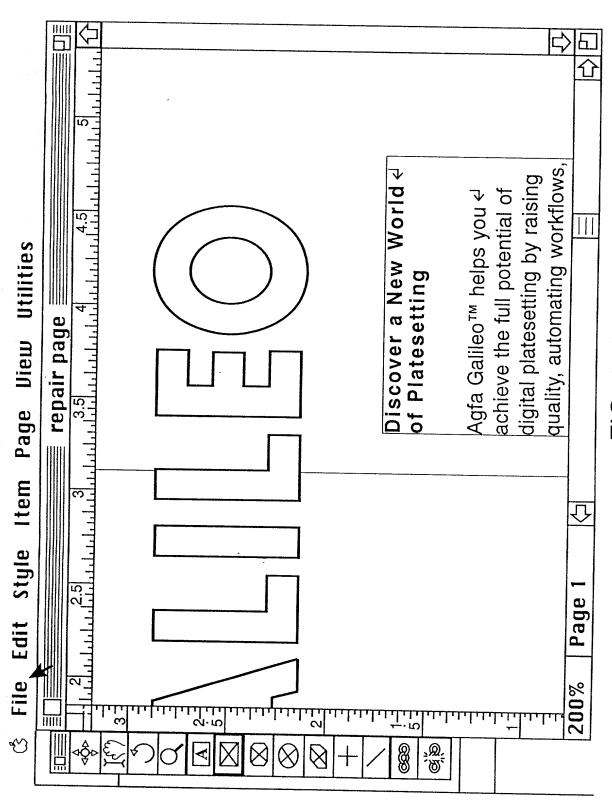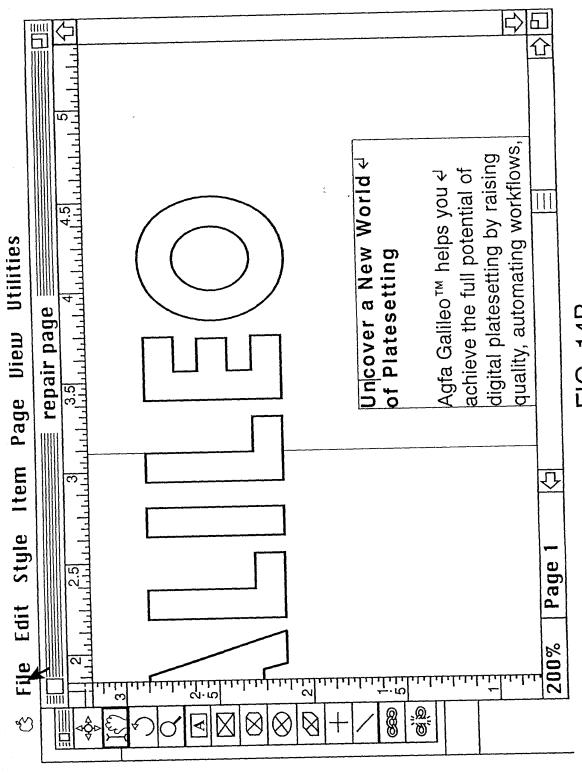Sheet 17 of 23

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FIG. 14B

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Sheet 18 of 23

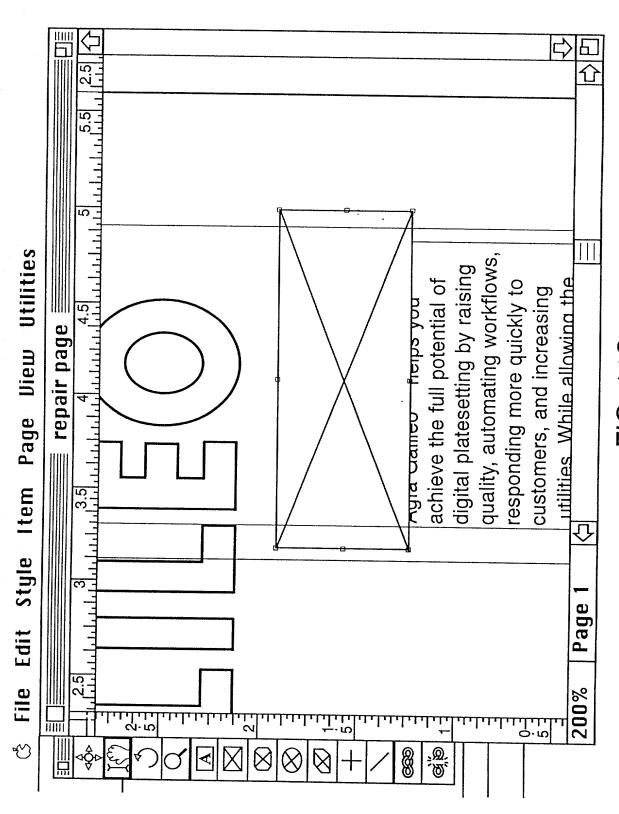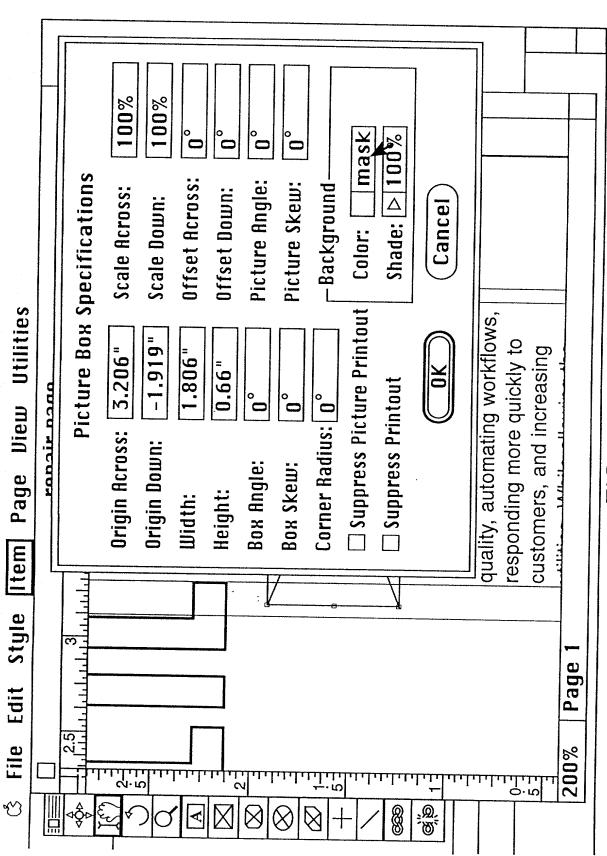File Edit Style Item Page View Utilities

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responding more quickly to
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FIG. 14C

Title Method and Apparatus for Modifying Raster Data
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Atty/Agent: Ira V. Heffan
Express Mail Mailing Label No. EL917371169US
Sheet 19 of 23

File Edit Style Item Page View Utilities

Picture Box Specifications

Origin Across:	3.206"
Origin Down:	-1.919"
Width:	1.806"
Height:	0.66"
Box Angle:	0°
Box Skew:	0°
Corner Radius:	0°

Scale Across:	100%
Scale Down:	100%
Offset Across:	0°
Offset Down:	0°
Picture Angle:	0°
Picture Skew:	0°

☐ Suppress Picture Printout
☐ Suppress Printout

─ Background

Color: mask
Shade: △ 100%

(OK)   (Cancel)

quality, automating workflows,
responding more quickly to
customers, and increasing

200% | Page 1

FIG. 14D

Title: Method and Apparatus for Modifying
Inventor(s): Bloomquist *et al.*
Serial No. 09/903,846
Atty Docket No. XP-0522CN (1660/86)
Atty/Agent: Ira V. Heffan
Express Mail Mailing Label No. EL917371169US
Sheet 20 of 23

FIG. 14E

Apogee PrintDrive Job List – apogee_337

View Device Job Help

ID	Name	Device	Media	Created	Input St...	Output St...	Proof St...	Pc
440	440	Ethel44	36" Film	12/24/97 13:17:18				Nc
441	double burn job	Ethel44	36" Film	12/24/97 13:22:54				Nc
442	jerry 2.preps	Ethel44	36" Film	12/24/97 13:25:30				Nc
443	jerry 2.fixpreps	Ethel44	36" Film	12/24/97 13:28:35				Nc
444	qf_original	Ethel44	36" Film	12/24/97 13:32:36				Nc

Ready   ⊗ Ethel44   Inactive

FIG. 14F

FIG. 14G

Inventor(s): Bloomquist *et al.*
Serial No. 09/903,846
Atty Docket No. XP-0522CN (1660/86)
Atty/Agent: Ira V. Heffan
Express Mail Mailing Label No. EL917371169US
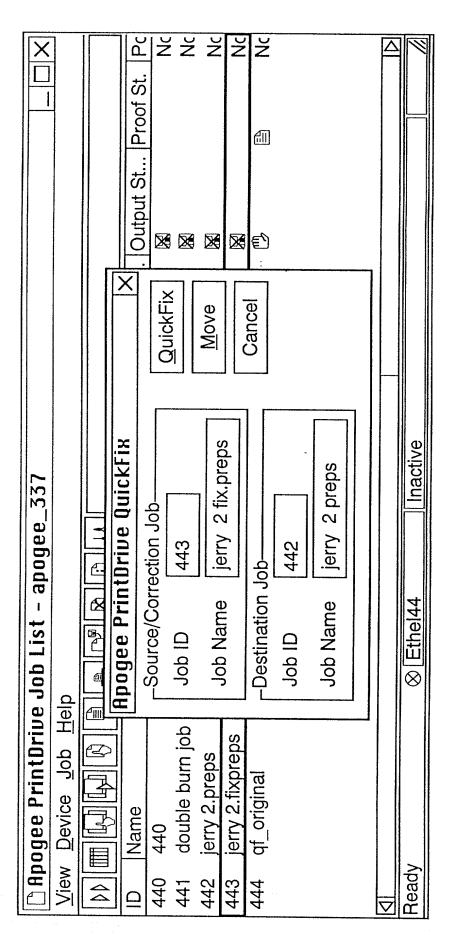Sheet 23 of 23

Add Separation

Source

Job ID	478	Page	1
Job Name	jerry-3.fix.preps		
Plane Name	Mask		

OK

Cancel

Skip

Destination

Job ID	478	Page	1
Job Name	jerry-3.fix.preps		
Plane Name	Cyan		

Operation
- ○ Move
- ○ Replace
- ○ Doubleburn
- ◉ Knockout

FIG. 14H

Add Separation

Source

Job ID	478	Page	2
Job Name	jerry-3.fix.preps		
Plane Name	Cyan		

OK

Cancel

Skip

Destination

Job ID	501	Page	1
Job Name	jerry-3.preps		
Plane Name	Cyan		

Operation
- ○ Move
- ○ Replace
- ◉ Doubleburn
- ○ Knockout

FIG. 14I